

</Artificial Intelligence>

[‘SUB-THEME’: ‘ASSISTIVE CHATBOT FOR DHL’]

'EVA,



Assistive Chatbot – For DHL

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Team members : 1. Niketan Dayma
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DHL Express : *Journey of shipment and customer service* (Present scenario or workflow of DHL)





Note: *Blue font indicates that this part of the workflow will be changed in future scenario with EVA*

Problems faced by Users:

- Package misplaced
- Package not delivered or delivered to wrong person
- Tracking problem
- Late reply or no reply to complaints or queries

Why an Assistive Chatbot???

- *Messaging apps* are dominating app usage.
- Chatbots are a *personalized and a new way* to engage with customers.
- Chatbots can *automate the current processes* and *reduces manpower*.
- Chatbots allow follow up, customer retention and service recovery.
- *24/7 service* available
- Responds to customer within fraction of seconds.
- *Over 2.5 billion people have at least one messaging app installed. And people spend more than 50 minutes a day on Facebook.*
- Users *don't have to download a new app*, because this chatbot can be integrated with either Facebook messenger or with other apps like Skype and more, which are commonly used which in result in increase efficiency of device.
- All information that the user has already provided to Facebook (e.g. login, user profile , location) can be used by the Facebook Messenger Chatbot (with permission), enabling feasible and frictionless user interactions.

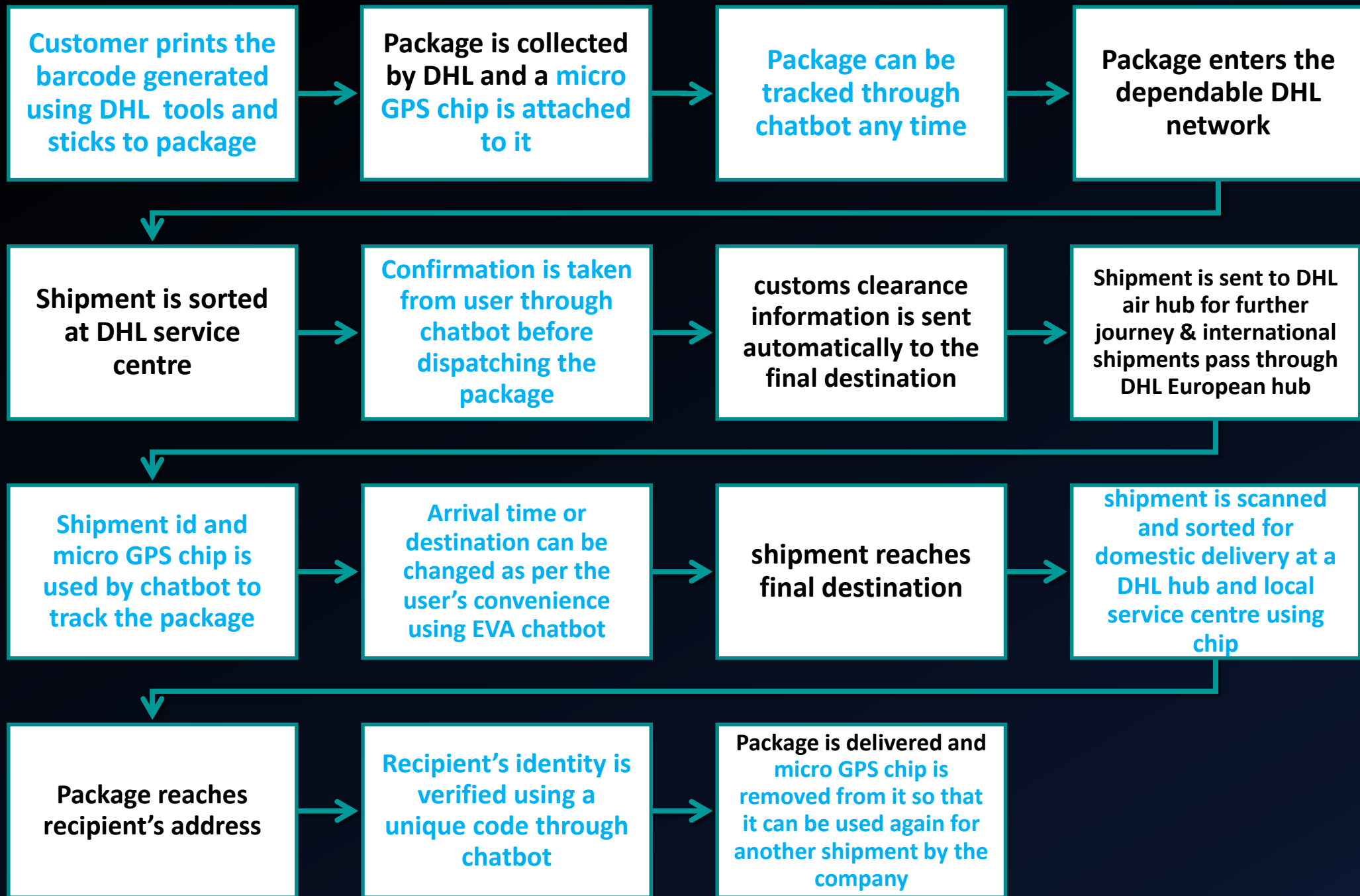
DHL Express : *Journey of shipment and customer service* (Future scenario with Eva – DHL Assistive Chatbot)

- *A micro GPS chip* can be attached along with the bill on the package (shipment) to help customers get the exact location.
- *Confirming the dispatch* of the package and tracking it down with micro GPS chip attached can be done using the chatbot.
- Verifying the recipient can be done with particular id on chatbot.
- Delivery location of shipment can be delayed or changed as per the convenience of the customer in less time using AI based chatbot.
- *24/7 service* available
- Queries can be resolved within fraction of seconds.

DHL Express : *Journey of shipment and customer service* (Future scenario or workflow with Eva – DHL Assistive Chatbot)

Note: *For the workflow in next slide, **blue font** indicates changes in the workflow of the future scenario with EVA*





Tech Stack used for development in Phase 2:

- Server backend: Heroku or google app engine
- Natural Language Processing platform : api.ai (<https://api.ai/>)
- Machine Learning platform : api.ai (<https://api.ai/>)
- Deployment on Facebook messenger and web demo (Phase 2)
- JSON for chatbot conversation

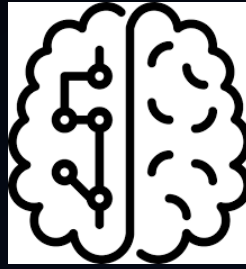
Newly added Tech Stack for phase 3:

- Skype(for deployment)
- Microsoft Bot framework(for NLP and Bot training)
- Rich Message feature of FB Messenger
- Cortana(for deployment)

Tech Stack for further development:

- *Web crawler and scrappers* to automate things and supply input data for chatbot
- *Can be integrated with many platforms* supported by api.ai and Microsoft Bot Framework
- *Assisted intelligence* - automation with routine tasks
- *Machine Learning* platform using *python*
- *micro GPS chip* for real time package tracking
- Barcode
- Azure/Google App Engine/AWS for hosting app on cloud

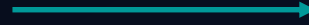
How Eva – Assistive Chatbot for DHL will work?



User
makes a
request



Request
analysed by Eva



Real time response
Conversational strategy
Interactions personalization

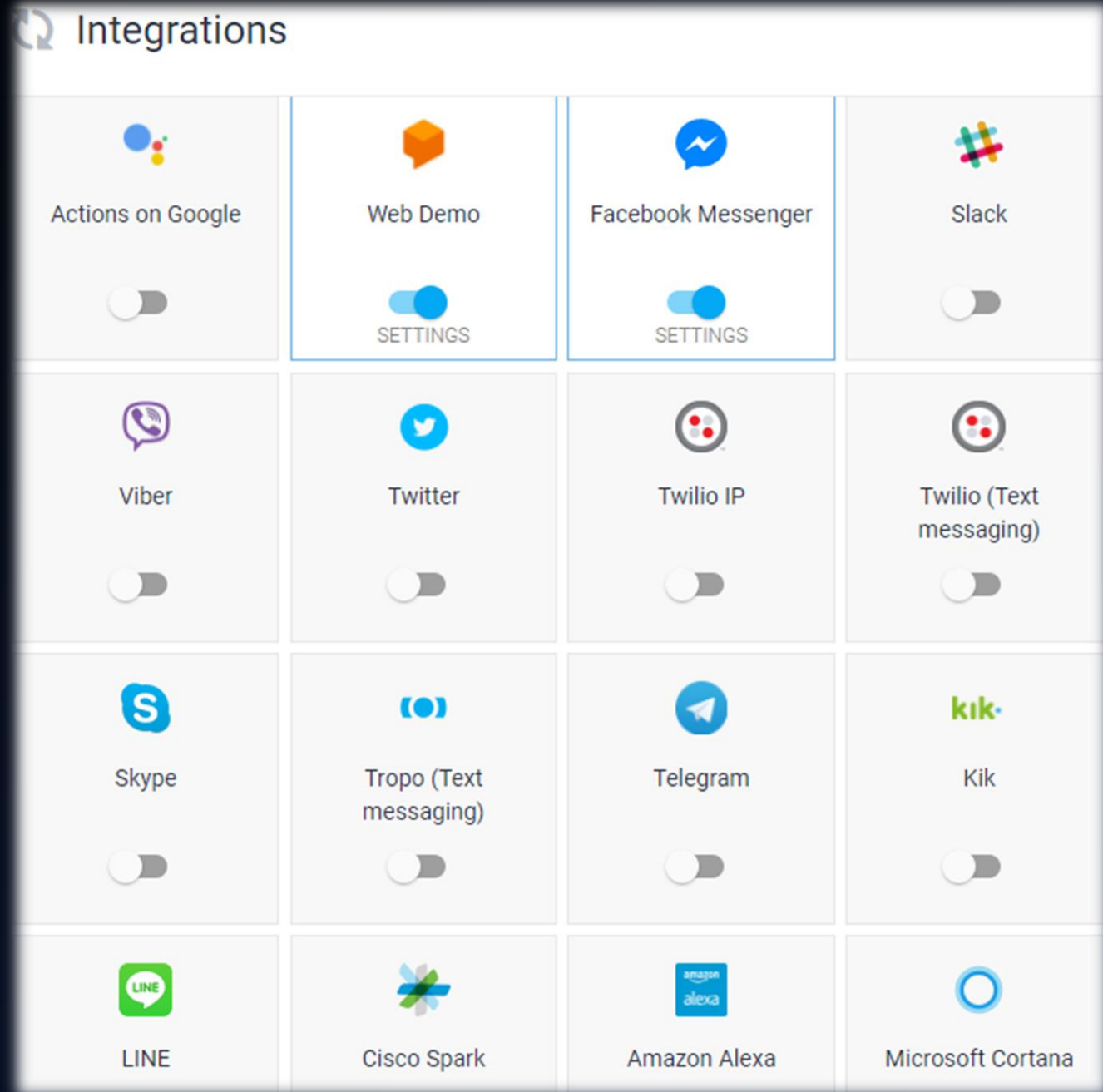
- **Real interactions with EVA – DHL Bot (integrated with FB messenger) for some general case:**



Integrations:

Right now we have integrated **EVA** with Facebook Messenger and created a demo URL (with Web Demo) to showcase our work on Chatbot.

In future or in final round, we can integrate **EVA** with various social platforms as seen in the picture.



In Phase 3, Eva is Integrated with
following platforms:



EVA can be made compatible to following platforms also:



Bing



Email

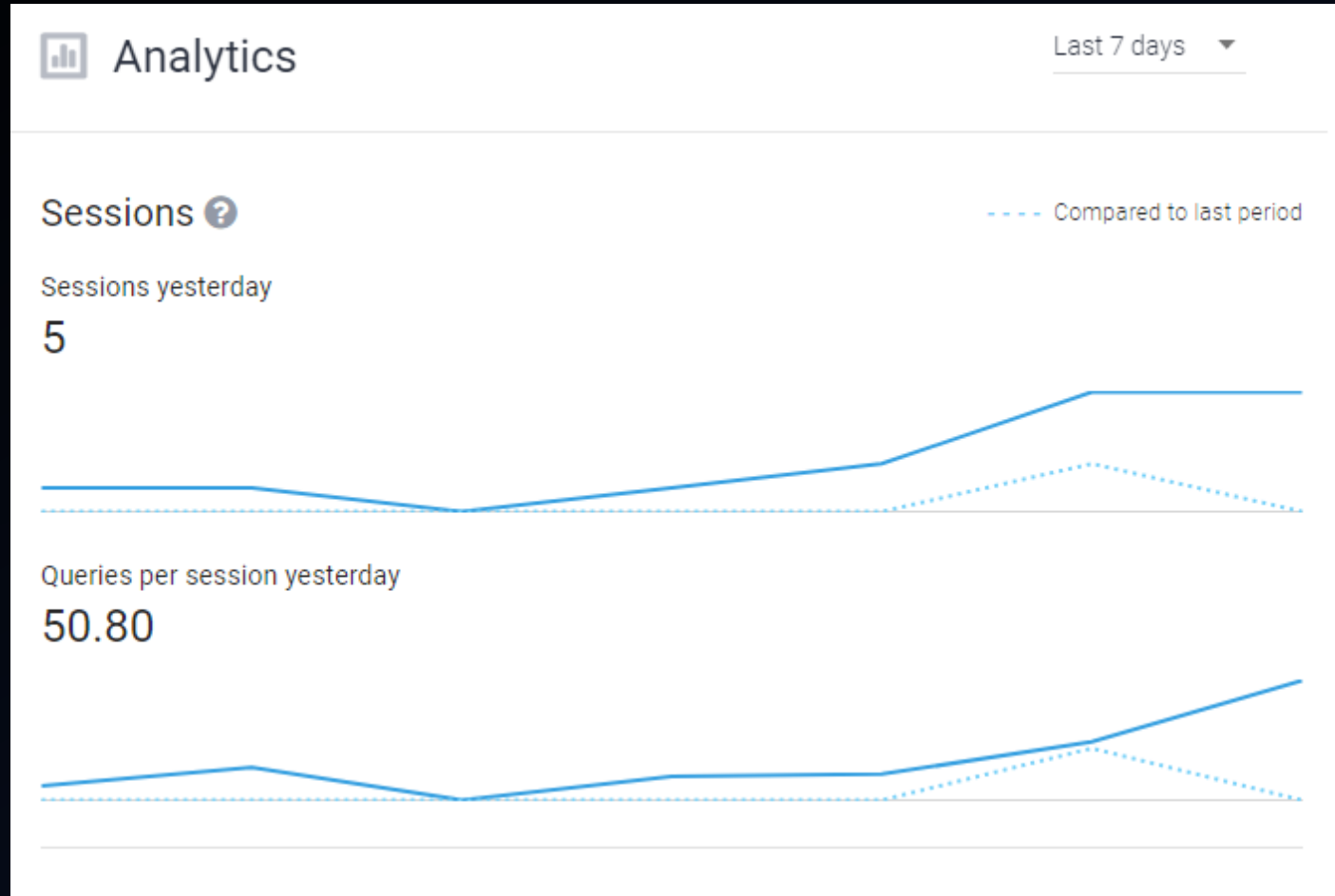


Groupme



Msteas







Performance analysis of **EVA** :


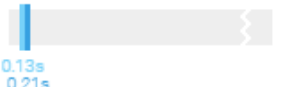

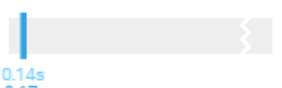





This shows that **EVA** is showing a significant improvement in training session, which implies a consistent growth in her (EVA) performance day by day when she interact with users.

Analysis cont.

Response Time Analysis

| Intent | Sessions | Count | Exit % | Agent response time |
|------------------------|----------|-------|--------|--|
| Default Welcome Intent | 8 | 26 | 3.85% |  0.04s 0.12s |
| About DHL | 5 | 18 | 11.11% |  0.04s 0.33s |
| Eva_Introduction | 4 | 8 | 12.50% |  0.04s 0.05s |
| re-routing | 4 | 67 | 7.46% |  0.11s 0.18s |
| Tracking | 4 | 11 | 27.27% |  0.13s 0.21s |
| Special offers | 3 | 6 | 16.67% |  0.04s 0.11s |

| | | | | |
|-------------------------|---|----|--------|--|
| re-routing | 4 | 67 | 7.46% |  0.11s 0.18s |
| Tracking | 4 | 11 | 27.27% |  0.13s 0.21s |
| Special offers | 3 | 6 | 16.67% |  0.04s 0.11s |
| Connect with live agent | 2 | 15 | 13.33% |  0.14s 0.17s |
| Customer email | 1 | 6 | 0% |  0.11s 0.14s |
| Contact us | 1 | 2 | 50% |  0.05s 0.05s |
| Refund request | 1 | 1 | 100% |  0.23s 0.23s |

*In the above test results we see that **EVA** comes with relevant response within fraction of seconds*



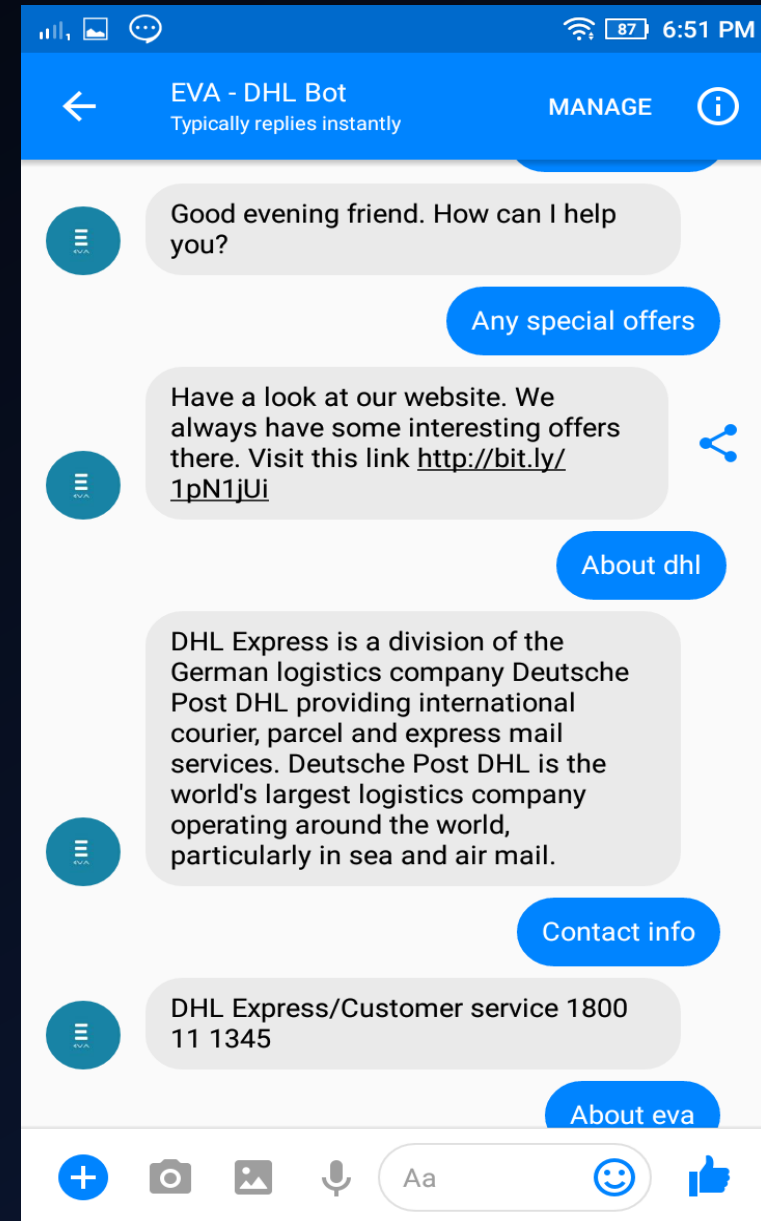
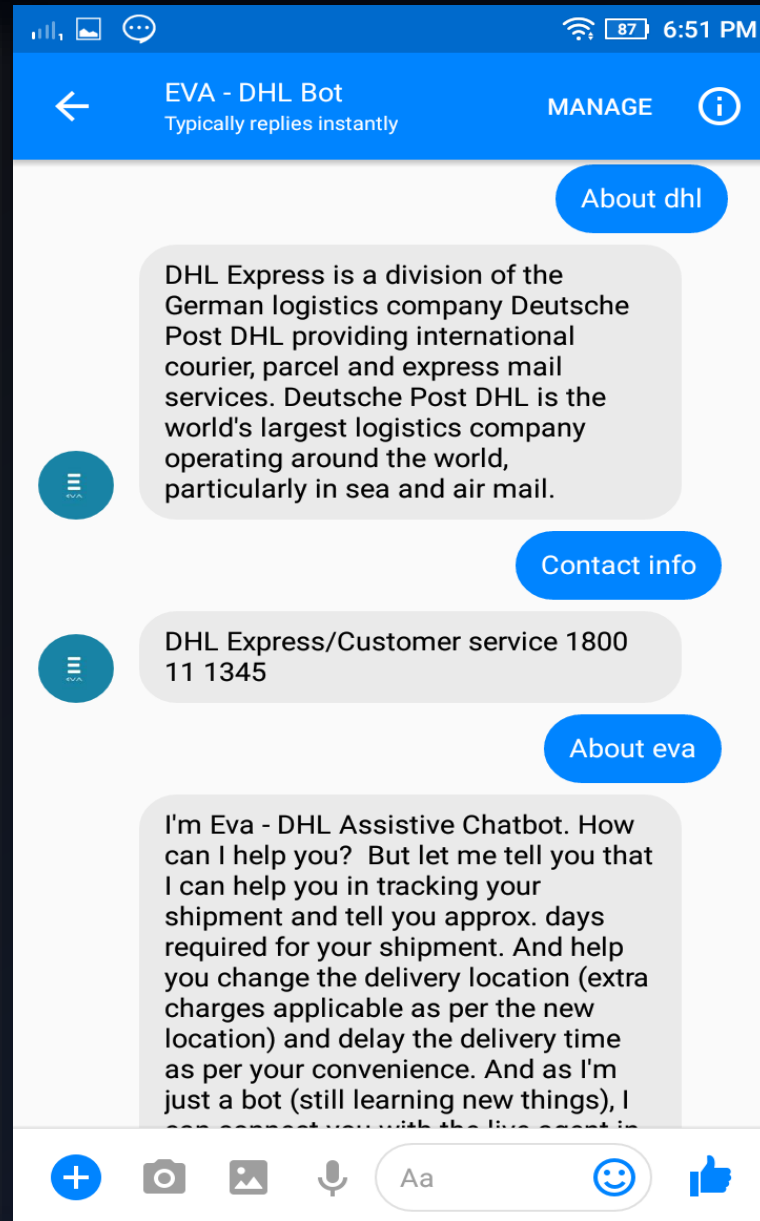
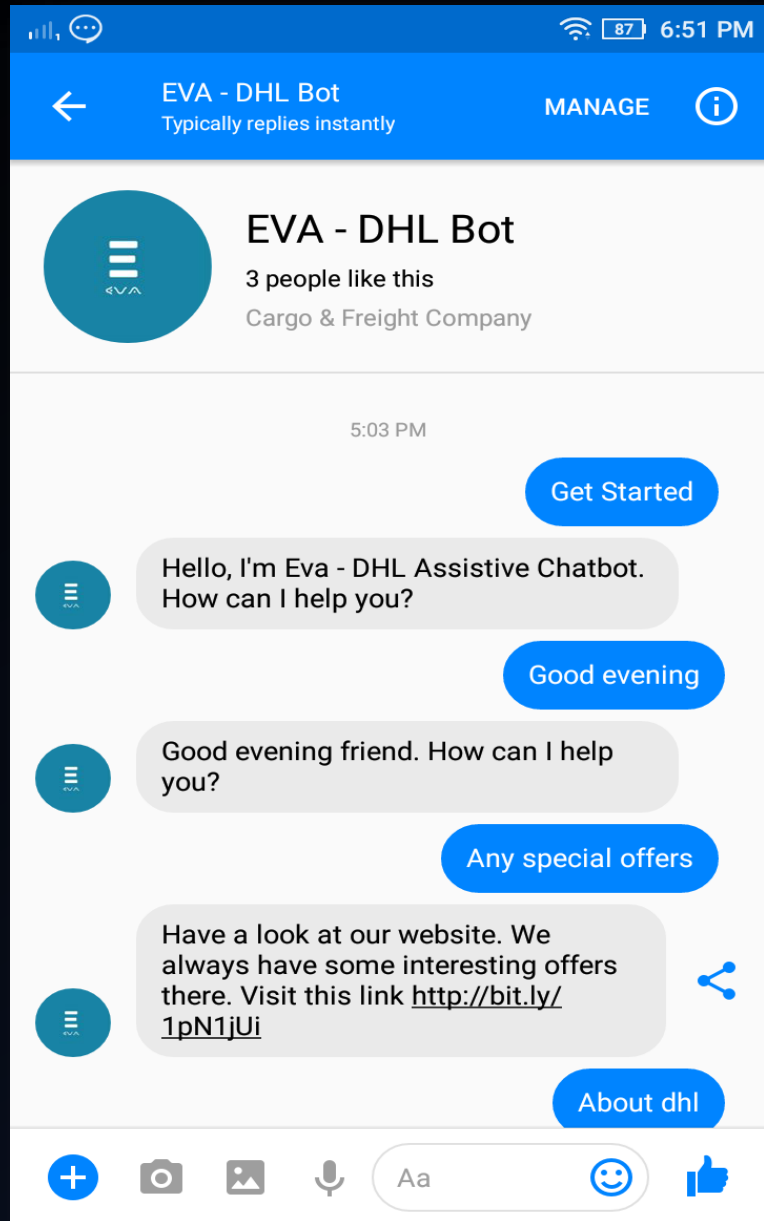
We took some snapshots of real time conversations with **EVA** and they show that the chatbot is successfully able to solve DHL's user centric problem including some basic queries.

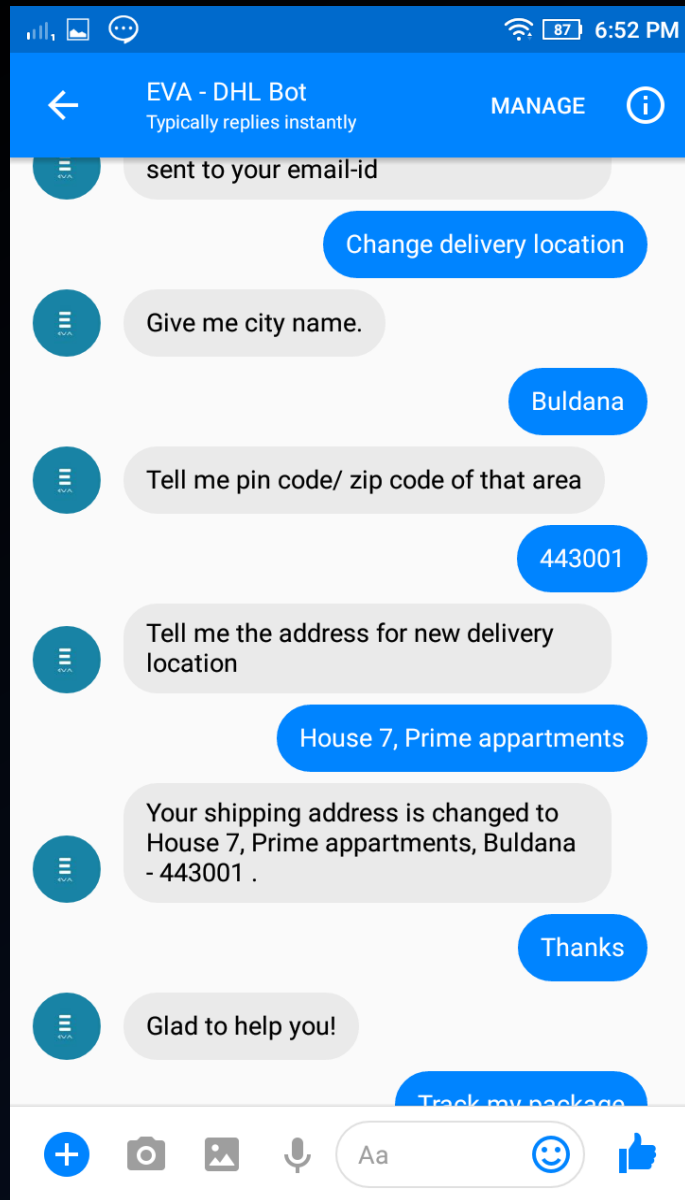
Screenshots



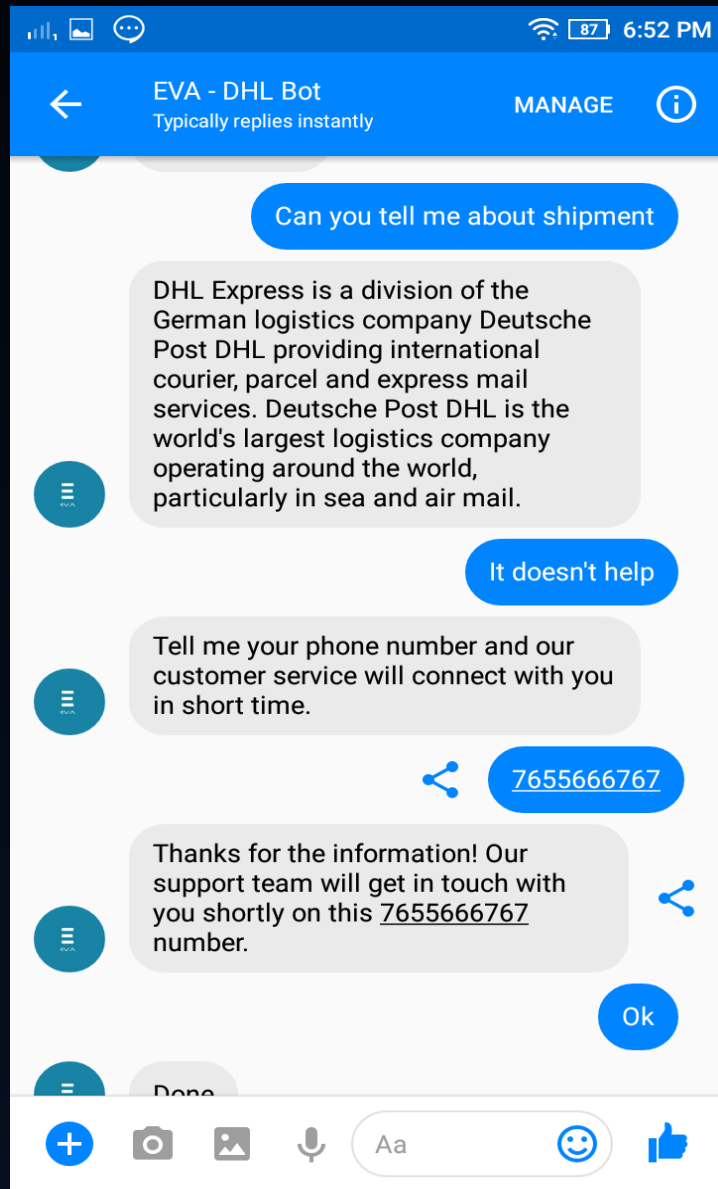
FB MESSENGER

Here, **EVA** is informing user about *current special offers* and supplementing user with *information that is asked about DHL and EVA*

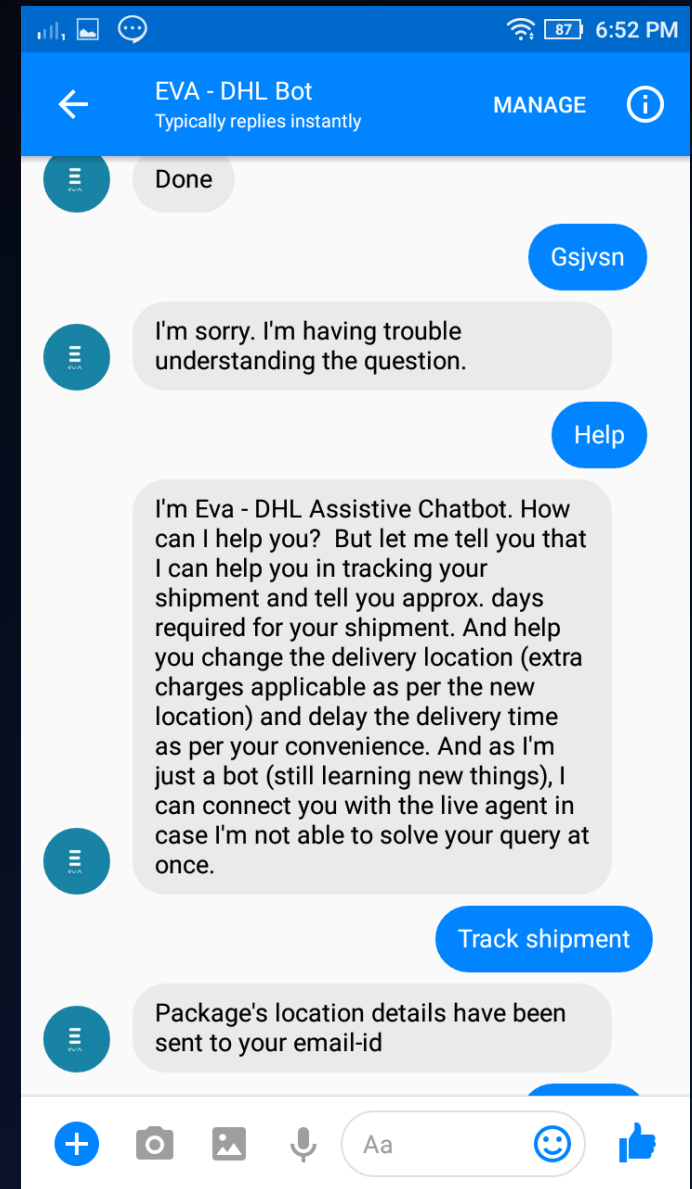




**RE-ROUTING
SHIPMENT**



**CONTACTING USER WITH
LIVE AGENT AT DHL**



**TRACKING
PACKAGE**

Bot FrameworkMy botsDocumentationBlog

EVA - DHL BotCHANNELSANALYTICSSettingsTest

Connect to channels

| Name | Health | Published | |
|-------------|------------|-----------------------------|------|
| Cortana | Running | Manage in Cortana dashboard | Edit |
| Direct Line | Running | -- | Edit |
| Skype | Running | -- | Edit |
| Web Chat | Issues (1) | -- | Edit |

Get bot embed codes

Add a channel

TestStart over

applicable as per the new location) and delay the delivery time as per your convenience. And as I'm just a bot (still learning new things), I can connect you with the live agent in case I'm not able to solve your query at once.

EVA - DHL Bot at 8:30:16 PM

I want to change my shipping address.

You

Give me city name.

EVA - DHL Bot at 8:35:19 PM

Manchester

You

Tell me pin code/ zip code of that area

EVA - DHL Bot at 8:35:31 PM

M1 1ET

You

Tell me the address for new delivery location

EVA - DHL Bot at 8:36:07 PM

50, Newton street, Manchester-M11ET

You

Your shipping address is changed to 50, Newton street, Manchester - M1 1ET .

EVA - DHL Bot at 8:36:42 PM

Type your message...

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[My bots](#)
[Documentation](#)
[Blog](#)

[EVA - DHL Bot](#)
[CHANNELS](#)
[ANALYTICS](#)
[SETTINGS](#)
[Test](#)

Connect to channels

| Name | Health | Published | |
|-------------|------------|---|----------------------|
| Cortana | Running | Manage in Cortana dashboard | Edit |
| Direct Line | Running | -- | Edit |
| Skype | Running | -- | Edit |
| Web Chat | Issues (1) | -- | Edit |

[Get bot embed codes](#)

Add a channel

Test

[Start over](#)

street, Manchester - M1 1ET .

EVA - DHL Bot at 8:36:42 PM

[Any special offers?](#)

You

Have a look at our website. We always have some interesting offers there. Visit this link <http://bit.ly/1pN1jUi>

EVA - DHL Bot at 8:38:34 PM

[Track my shipment with track number : 1234258](#)

You

Package's location details have been sent to your email-id

EVA - DHL Bot at 8:39:04 PM

[When will my shipment reach the receivers address](#)

You

You can check the estimated delivery time on the Deliver page of our website.

EVA - DHL Bot at 8:40:03 PM

[ok](#)

You

Done









EVA - DHL Bot at 8:40:10 PM

Type your message...

Bot FrameworkMy botsDocumentationBlog











EVA - DHL BotCHANNELSANALYTICSETTINGS→ Test

Connect to channels

| Name | Health | Published | |
|---|------------|---|--|
|  Cortana | Running | Manage in Cortana dashboard | Edit  |
|  Direct Line | Running | -- | Edit  |
|  Skype | Running | -- | Edit  |
|  Web Chat | Issues (1) | -- | Edit  |

[Get bot embed codes](#)

Add a channel



Test↻ Start over

You

I'm doing good. How can I help?

EVA - DHL Bot at 8:45:22 PM

[Connect me with live agent](#)

You

Tell me your phone number and our customer service will connect with you in short time.

EVA - DHL Bot at 8:45:49 PM

[+913748532758](#)

You

Thanks for the information! Our support team will get in touch with you shortly on this +913748532758 number.

EVA - DHL Bot at 8:46:02 PM

[Your contact details?](#)

You

DHL Express/Customer service 1800 11 1345



EVA - DHL Bot at 8:46:22 PM

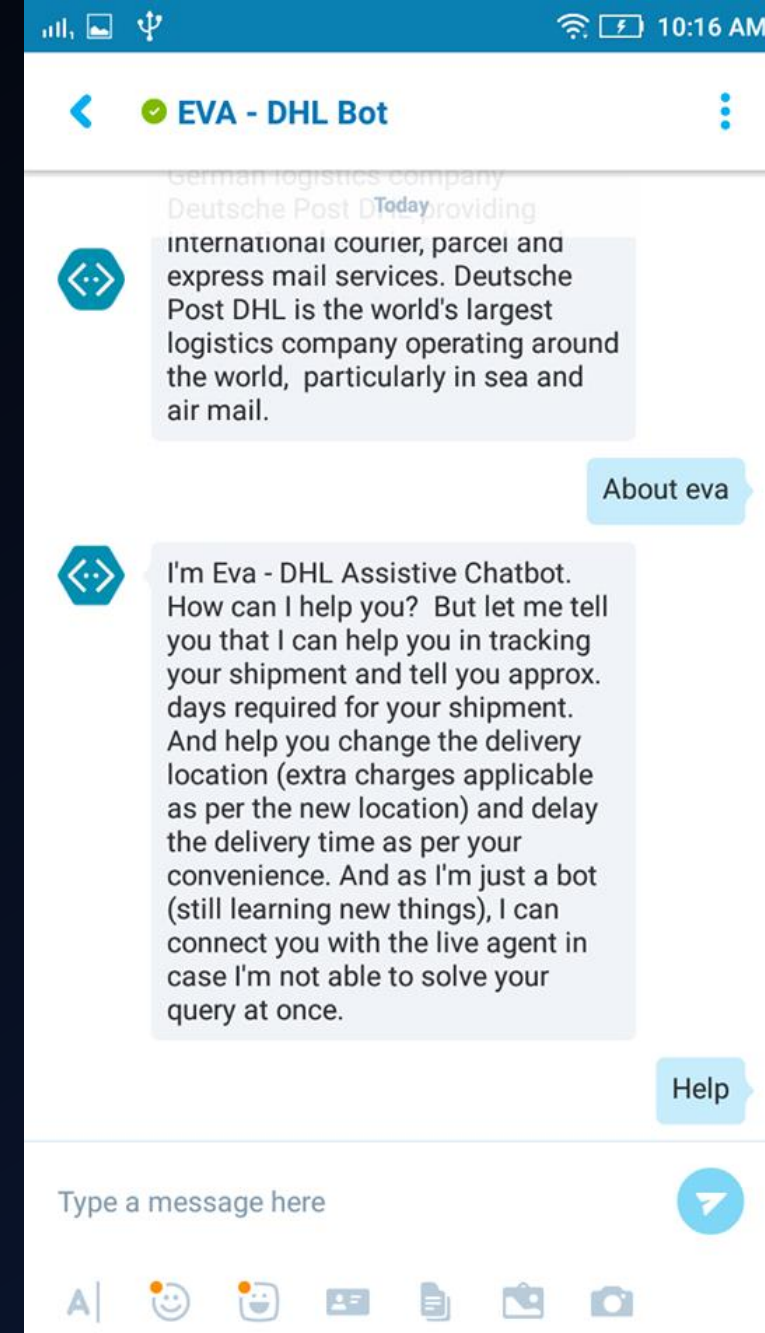
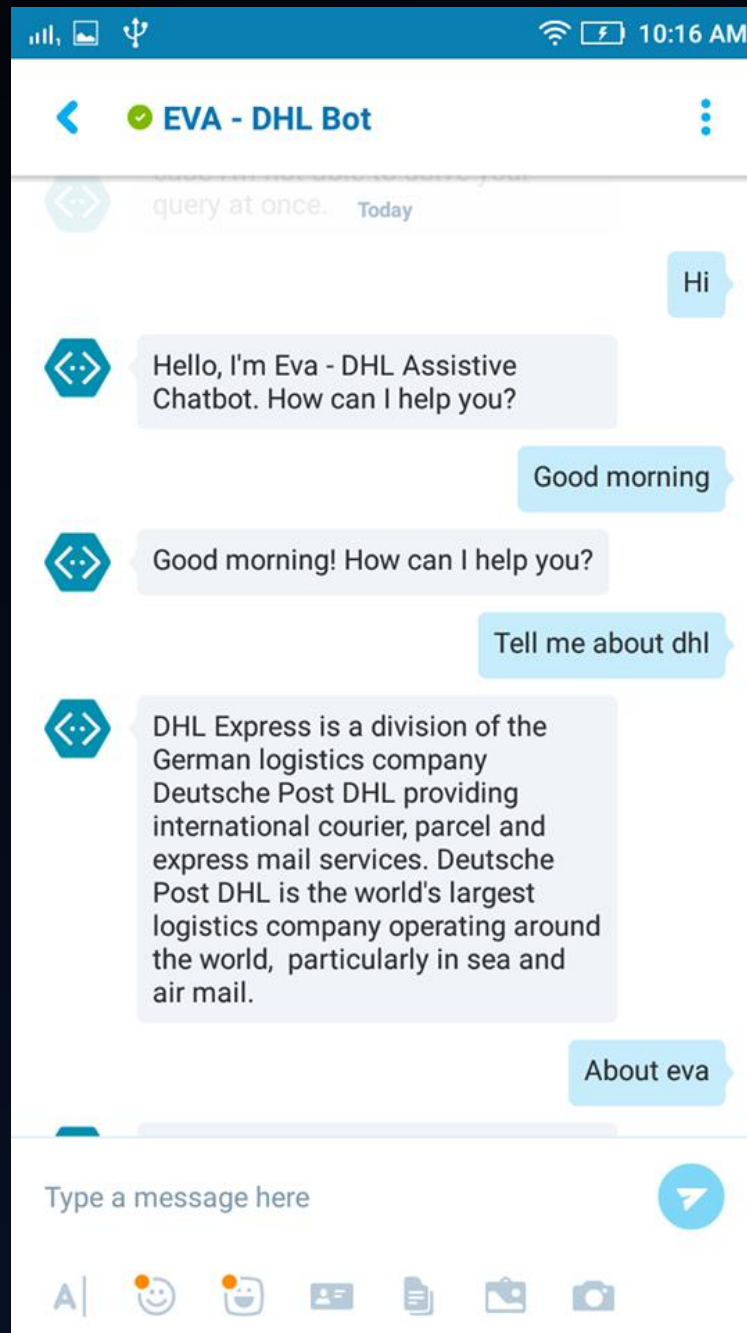
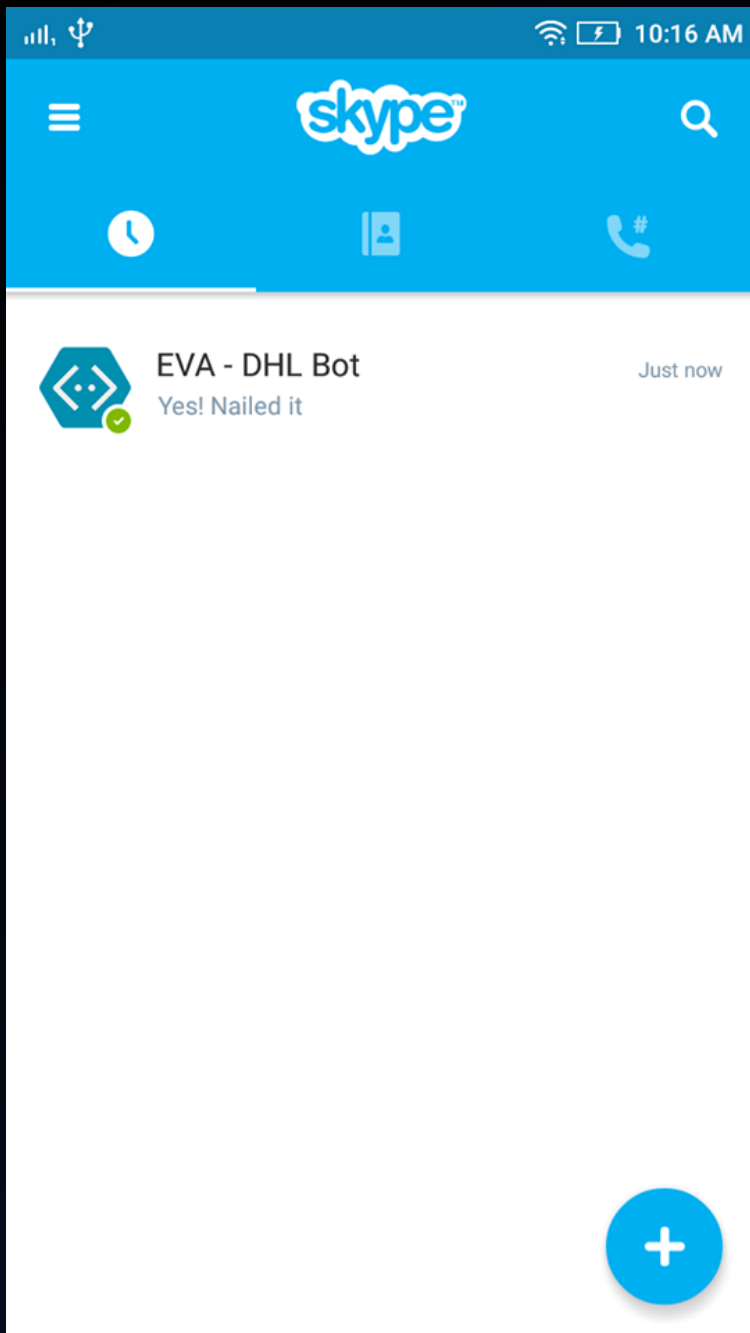
[Thank you.](#)

You

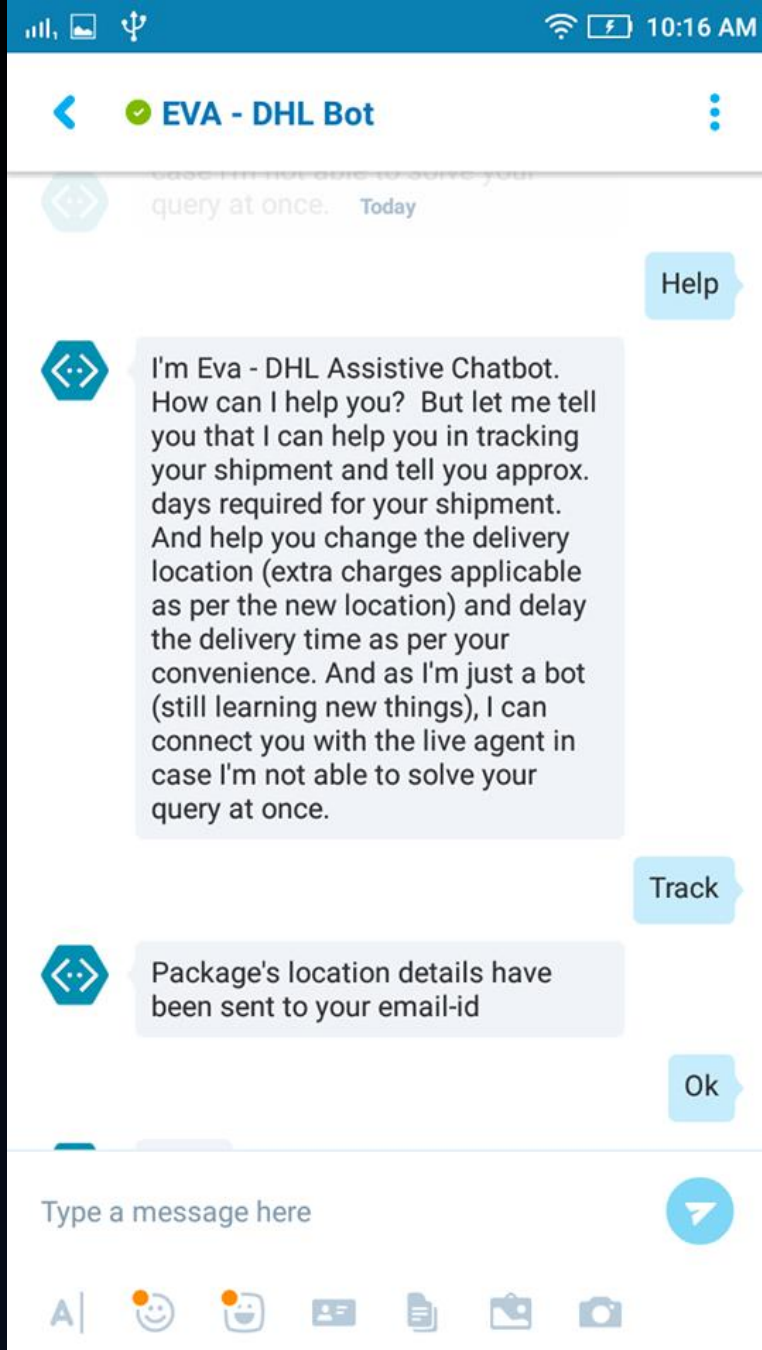
Glad to help you!

EVA - DHL Bot at 8:46:33 PM

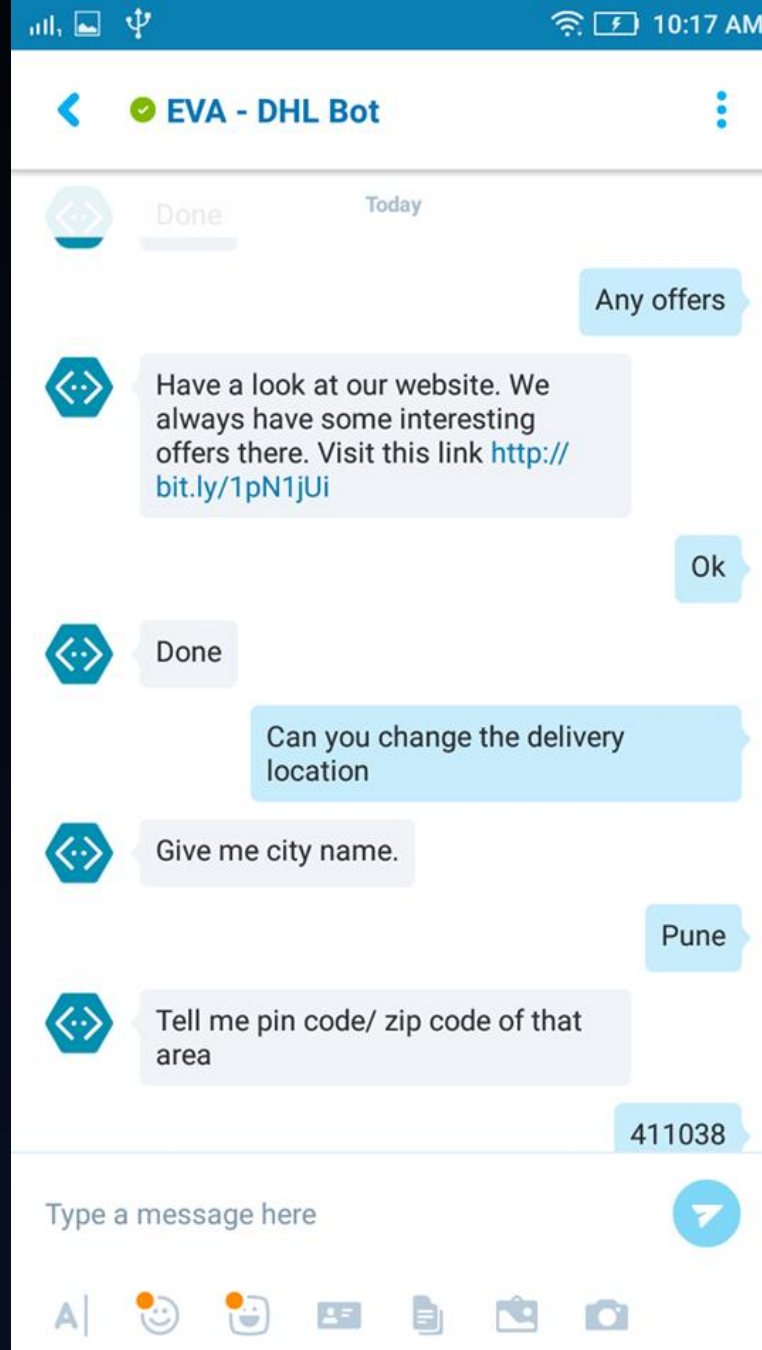
 |type your message... 



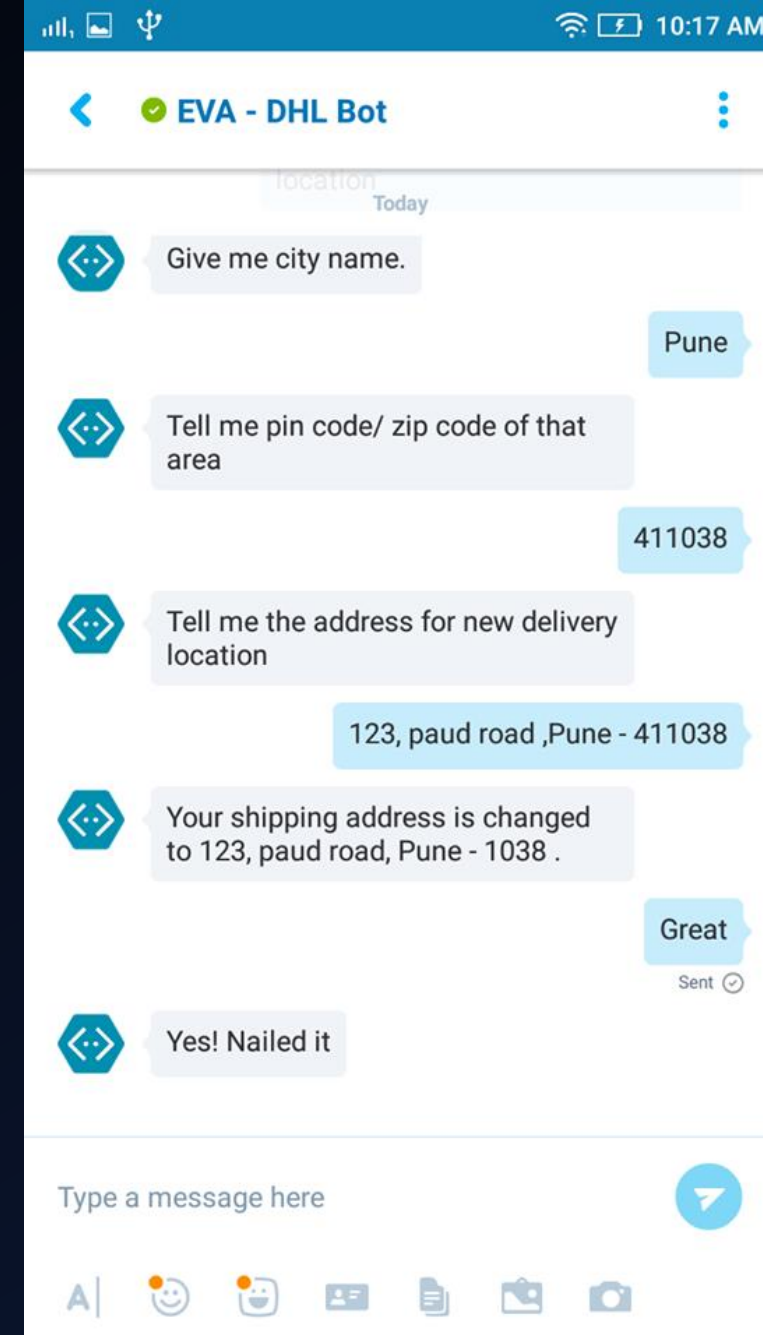
<- Introduction ->



Tracking



offers



Re-Routing

User Benefits:

- Tracking exact location
- It will help user to track parcel with any messenger in which chatbot is integrated so it is platform independent i.e. ; it will work on mobile as well as computer
- Respond to queries in less time
- Real time response to the user regarding any parcel tracking issue.
- No new apps to download
- 24/7 service
- customer autonomy
- innovative customer service
- 90% correct immediate answers
- Personalized response

Company Benefits:

- New way to engage with users
- Reduces manpower
- 24/7 service automated for customers
- New way to shipment and tracking.
- It will be trusted and reliable employee.
- Chatbot can save conventional workload of customer support in the companies with features like order tracking , delivery product technical support, re-routing packages and incident reporting to designated department and taking preliminary action at same time.
- Replaces companies current way with automated helpdesk and practical services like incident reporting
- Innovative customer service
- Relieve congestion in contact centres = more free time for value added questions
- Decreases calls and emails to support service

The background is a solid dark navy blue. In the corners, there are abstract, multi-lined geometric shapes in a teal color. On the left, there are vertical and diagonal lines forming a corner-like structure. On the bottom left, there are horizontal and diagonal lines. On the bottom right, there are diagonal lines extending towards the corner.

THANK YOU